

Claims

1. A sensitive surface protective material for protecting a sensitive surface of an article comprising a nonwoven web having a bulk density in the range of about 0.075 g/cc to
5 about 0.130 g/cc, a Gurley stiffness greater than about 80 mg and voids within the nonwoven web structure capable of entrapping particles, wherein the sensitive surface protective material protects the sensitive surface from damage caused by particles.
2. The sensitive surface protective material of claim 1, wherein the nonwoven web
10 comprises a through-air bonded nonwoven web comprising multicomponent spunbond filaments.
3. The sensitive surface protective material of claim 2, wherein the multicomponent
15 filaments are bicomponent filaments comprising a first polymer component and a second polymer component.
4. The sensitive surface protective material of claim 3, wherein the first polymer
20 component comprises polyethylene and the second polymer component comprises polypropylene.
5. The sensitive surface protective material of claim 4, wherein the first polymer
component and the second polymer component are arranged in a side-by-side
configuration.
- 25 6. The sensitive surface protective material of claim 4, wherein the multicomponent filaments comprise a sheath/core configuration and the sheath comprises the first polymer component and the core comprises the second polymer component.
7. The sensitive surface protective material of claim 1, wherein the bulk density is
30 between about 0.08 g/cc and about 0.125 g/cc and the Gurley stiffness is at least about 100 mg.
8. The sensitive surface protective material of claim 7, wherein the bulk density is
35 between about 0.09 g/cc and about 0.120 g/cc.

9. The sensitive surface protective material of claim 8, wherein the nonwoven web comprises a through-air bonded spunbond nonwoven web comprising side-by-side bicomponent fibers comprising, as a first component, polyethylene, and, as a second component, polypropylene.

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10. The sensitive surface protective material of claim 8, wherein the nonwoven web comprises a spunbond nonwoven web comprising side-by-side bicomponent filaments comprising, as a first component, polyethylene, and, as a second component, polypropylene, and wherein the spunbond nonwoven web is bonded with a pattern having a continuous bonded areas defining a plurality of discrete unbonded areas.

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11. The sensitive surface protective material of claim 1, wherein the nonwoven web comprises multicomponent spunbond filaments bonded in a pattern having a continuous bonded areas defining a plurality of discrete unbonded areas.

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12. The sensitive surface protective material of claim 11, wherein the multicomponent filaments are bicomponent filaments comprising a first polymer component and a second polymer component.

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13. The sensitive surface protective material of claim 12, wherein the first polymer component comprises polyethylene and the second polymer component comprises polypropylene.

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14. The sensitive surface protective material of claim 13, wherein the first polymer component and the second polymer component are arranged in a side-by-side configuration.

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15. The sensitive surface protective material of claim 13, wherein the multicomponent filaments comprise a sheath/core configuration and the sheath comprises the first polymer component and the core comprises the second polymer component.

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16. A storage sleeve comprising the sensitive surface protective material of claim 1.

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17. A storage sleeve for holding an article having a sensitive surface to protect the sensitive surface from damage comprising a first web having a top edge, a bottom edge and two side edges and

a second web comprising a nonwoven web having a bulk density in the range of about 0.075 g/cc to about 0.130 g/cc and a Gurley stiffness greater than about 80 mg and having a top edge, a bottom edge and two side edges,

wherein the first web is interconnected with the second web at or near the bottom edge and two side edges of the first web to form a pocket to hold said article having a sensitive surface.

18. The storage sleeve according to claim 17, wherein the first web comprises a nonwoven web having a bulk density in the range of about 0.08 g/cc to about 0.125 g/cc and a Gurley stiffness greater than about 100 mg.

19. The storage sleeve according to claim 17, wherein the first web comprises a film.

20. The storage sleeve according to claim 19, wherein the film comprises a polyolefin selected from the group consisting of polyethylene and polypropylene.

21. The storage sleeve according to claim 17, further comprising a third web having a top edge, a bottom edge and two side edges,

wherein the second web is positioned between the first web and the third web and the first web and the third web are interconnected with the second web at or near the bottom edge and the two side edges of the first web and the third web to form a pocket to hold an article having a sensitive surface on each side of the second web.

22. The storage sleeve according to claim 21, wherein the first web and the third web comprise a film.

23. The storage sleeve according to claim 22, wherein the film comprises a polyolefin selected from the group consisting of polyethylene and polypropylene.

24. The storage sleeve according to claim 17, wherein the nonwoven web is a through-air bonded nonwoven web of multicomponent spunbond filaments.

25. The storage sleeve according to claim 24, wherein the multicomponent filaments are bicomponent filaments comprising a first polymer component and a second polymer component.

26. The storage sleeve according to claim 25, wherein the first polymer component is polyethylene and the second polymer component is polypropylene.
27. The storage sleeve according to claim 26, wherein the first polymer component and the second polymer component are arranged in a side-by-side configuration.
28. The storage sleeve according to claim 25, wherein the multicomponent filaments comprise a sheath/core configuration and the sheath comprises the first polymer component and the core comprises the second polymer component.
29. The storage sleeve according to claim 17, wherein the nonwoven web comprises multicomponent spunbond filaments bonded in a pattern having a continuous bonded areas defining a plurality of discrete unbonded areas.
30. The storage sleeve according to claim 29, wherein the multicomponent filaments are bicomponent filaments comprising a first polymer component and a second polymer component.
31. The storage sleeve according to claim 30, wherein the first polymer component is polyethylene and the second polymer component is polypropylene.
32. The storage sleeve according to claim 31, wherein the first polymer component and the second polymer component are arranged in a side-by-side configuration.
33. The storage sleeve according to claim 31, wherein the multicomponent filaments comprise a sheath/core configuration and the sheath comprises the first polymer component and the core comprises the second polymer component.
34. The storage sleeve according to claim 21, wherein the nonwoven web is a through-air bonded nonwoven web of multicomponent filaments.
35. The storage sleeve according to claim 34, wherein the multicomponent filaments are bicomponent filaments comprising a first polymer component and a second polymer component.

36. The storage sleeve according to claim 35, wherein the first polymer component is polyethylene and the second polymer component is polypropylene.

37. The storage sleeve according to claim 36, wherein the first polymer component and the second polymer component are arranged in a side-by-side configuration.

38. The storage sleeve according to claim 36, wherein the multicomponent filaments comprise a sheath/core configuration and the sheath comprises the first polymer component and the core comprises the second polymer component.

39. The storage sleeve according to claim 37, wherein the first and third webs are films.

40. The storage sleeve according to claim 38, wherein the first and third webs are films.

41. The storage sleeve according to claim 39, wherein the film comprises a polyolefin selected from the group consisting of polyethylene and polypropylene.

42. The storage sleeve according to claim 40, wherein the film comprises a polyolefin selected from the group consisting of polyethylene and polypropylene.

43. The storage sleeve according to claim 41, wherein the film comprises polyethylene.

44. The storage sleeve according to claim 42, wherein the film comprises polyethylene.

45. The storage sleeve according to claim 21, wherein the nonwoven web comprises multicomponent spunbond filaments bonded in a pattern having a continuous bonded areas defining a plurality of discrete unbonded areas.

46. A method of protecting a sensitive surface comprising contacting the sensitive surface with the sensitive surface protecting material of claim 1.

47. A stack of articles having a sensitive surface, comprising a plurality of articles having at least one sensitive surface and a sensitive surface protecting material between each article in the stack, wherein the sensitive surface protecting material comprises the sensitive surface protecting material of claim 1.